

## EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	35	laser with weld\$3 with intermediate adj member	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/03/23 10:03
L2	0	laser with textur\$5 with intermediate adj member with (join\$3 connect\$4)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/03/23 10:04
L3	0	textur\$5 near2 surface near5 intermediate adj member with (join\$3 connect\$4)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/03/23 10:04
L4	0	textur\$5 near2 surface near5 intermediate adj member same member with (join\$3 connect\$4)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/03/23 10:05
L5	7	textur\$5 near2 surface near5 spacer same spacer with (join\$3 connect\$4)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/03/23 10:05
L6	9	textur\$5 near2 surface near5 intermediate same intermediate with (join\$3 connect\$4)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/03/23 10:06
L7	31	rough\$5 adj surface near5 (intermediate spacer spacing) same (intermediate spacer spacing) with (join\$3 connect\$4)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/03/23 10:08
L10	6	"2375728"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/03/23 10:16

L11	9	"2029308"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/03/23 10:17
L12	12	"2252068"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/03/23 10:17
L13	0	rough\$5 near2 surface near5 (intermediate spacer spacing) with both adj side same (intermediate spacer spacing) with (join\$3 connect\$4) with adhesiv \$5	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/03/23 10:33
L14	0	rough\$5 near2 surface near5 (intermediate spacer spacing) with both adj side and (intermediate spacer spacing) with (join\$3 connect\$4) with adhesiv \$5	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/03/23 10:33
L15	0	rough\$5 near2 surface with (intermediate spacer spacing) with both adj side and (intermediate spacer spacing) with (join\$3 connect\$4) with adhesiv \$5	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/03/23 10:34
L16	0	(rough\$5 textur\$5 abrad \$3 scratch\$4) near2 surface with (intermediate spacer spacing) with both adj side and (intermediate spacer spacing) with (join\$3 connect\$4) with adhesiv\$5	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/03/23 10:34
L17	0	(rough\$5 textur\$5 abrad \$3 scratch\$4) near2 face with (intermediate spacer spacing) with both adj side and (intermediate spacer spacing) with (join\$3 connect\$4) with adhesiv \$5	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/03/23 10:35

L18	0	((rough\$5 textur\$5 abrad\$3 scratch\$4) near2 (face surface side) with (intermediate spacer spacing) with both adj side and (intermediate spacer spacing) with (join\$3 connect\$4) with adhesiv\$5	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/03/23 10:35
L19	0	((sand\$3 rough\$5 textur\$5 abrad\$3 scratch\$4) near2 (face surface side) with (intermediate spacer spacing) with both adj side and (intermediate spacer spacing) with (join\$3 connect\$4) with adhesiv\$5	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/03/23 10:36
L20	41	((sand\$3 rough\$5 textur\$5 abrad\$3 scratch\$4) near2 (face surface side) same (intermediate spacer spacing) with (join\$3 connect\$4) with adhesiv\$5	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/03/23 10:37
L23	1242	"156"/\$.ccls. and ((rough\$5 textur\$5 abrad\$4 scratch\$4) near2 (surface face)).clm.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/03/23 12:13
L24	551	"156"/\$.ccls. and ((rough\$5 textur\$5 abrad\$4 scratch\$4) adj (surface face)).clm.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/03/23 12:13
L25	25	"156"/\$.ccls. and ((rough\$5 textur\$5 abrad\$4 scratch\$4) adj (surface face) and laser).clm.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/03/23 12:14
S1	2	((("4861407") or ("6176959")).PN.	USPAT; USOCR	OR	OFF	2009/03/22 08:58
S2	7	("3959091"   "4479218"   "4673409"   "4861407"   "4931125"   "5338915"   "5473138").PN. OR ("6176959").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2009/03/22 08:59

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S4	83	S3 and laser	US-PGPUB; USPAT; USOCR	OR	ON	2009/03/22 09:07
S5	73	S3 and (laser electron energy radiation light) adj2 beam	US-PGPUB; USPAT; USOCR	OR	ON	2009/03/22 09:07
S6	75	S3 and (laser electron energy radiation light) near2 beam	US-PGPUB; USPAT; USOCR	OR	ON	2009/03/22 09:08
S7	56	S4 and laser with surface	US-PGPUB; USPAT; USOCR	OR	ON	2009/03/22 09:09
S8	22	S4 and laser with surface with (structur\$5 project\$4 hole aperture feature)	US-PGPUB; USPAT; USOCR	OR	ON	2009/03/22 09:10
S9	16	S4 and laser with surface with (structur\$5 projection projecting hole aperture feature)	US-PGPUB; USPAT; USOCR	OR	ON	2009/03/22 09:11

S10	16	S4 and laser with surface with (structur\$5 projection projecting hole aperture feature hill mound)	US-PGPUB; USPAT; USOCR	OR	ON	2009/03/22 09:11
S11	18	S4 and laser with surface with (modify\$3 modificat\$4 structur\$5 projection projecting hole aperture feature hill mound)	US-PGPUB; USPAT; USOCR	OR	ON	2009/03/22 09:13
S12	25	S4 and laser with (surface topo\$11) with (\$7textur\$6 modify\$3 modificat\$4 structur\$5 projection projecting hole aperture feature hill mound)	US-PGPUB; USPAT; USOCR	OR	ON	2009/03/22 09:24
S13	616	("0444597"   "0852873"   "1730520"   "1938444"   "20010039454"   "20010044043"   "20010053937"   "20030006534"   "20030065400"   "20030102099"   "20030124043"   "20030125739"   "20030126948"   "20030138368"   "20030186828"   "20040002759"   "20040067355"   "20050016969"   "20050063889"   "20050119759"   "20080021586"   "20080050524"   "20080124663"   "20080195232"   "20080212266"   "20080233343"   "2023019"   "2131777"   "2373876"   "2386583"   "2393953"   "2450409"   "2450410"   "2577129"   "2638050"   "2724493"   "2863175"   "2865725"   "2958593"   "2987352"   "3045321"	US-PGPUB; USPAT; USOCR	OR	ON	2009/03/22 09:28

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S14	101	S13 and laser with (surface topo\$11) with (\$7textur\$6 modify\$3 modificat\$4 structur\$5 projection projecting hole aperture feature hill mound)	US-PGPUB; USPAT; USOCR	OR	ON	2009/03/22 09:29

S15	37	S14 and (repeat\$4 plural \$4 multiple) with laser with (surface topo\$11 \$7textur\$6 modify\$3 modificat\$4 structur\$5 projection projecting hole aperture feature hill mound)	US-PGPUB; USPAT; USOCR	OR	ON	2009/03/22 09:30
S16	15	S15 and melt\$3 with (laser surface topo\$11 \$7textur\$6 modify\$3 modificat\$4 structur\$5 projection projecting hole aperture feature hill mound)	US-PGPUB; USPAT; USOCR	OR	ON	2009/03/22 09:31
S17	7	S14 and repeat\$4 with laser with (surface topo \$11 \$7textur\$6 modify \$3 modificat\$4 structur \$5 projection projecting hole aperture feature hill mound)	US-PGPUB; USPAT; USOCR	OR	ON	2009/03/22 09:32
S18	1	("5291240").PN.	USPAT; USOCR	OR	OFF	2009/03/22 09:34
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S21	90	S20 and (repeat\$4 plural \$4 multiple) with laser with (surface topo\$11 \$7textur\$6 modify\$3 modificat\$4 structur\$5 projection projecting hole aperture feature hill mound)	US-PGPUB; USPAT; USOCR	OR	ON	2009/03/22 09:39
S22	39	S20 and (repeat\$4 plural \$4 multiple) with laser with (topo\$11 \$7textur \$6 modify\$3 modificat \$4 structur\$5 projection projecting hole aperture feature hill mound)	US-PGPUB; USPAT; USOCR	OR	ON	2009/03/22 09:40
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S25	30	S24 and laser with (surface topo\$11) with (pattern\$4 \$7textur\$6 modify\$3 modificat\$4 structur\$5 projection projecting hole aperture feature hill mound)	US-PGPUB; USPAT; USOCR	OR	ON	2009/03/22 09:42
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S27	39	S26 and (repeat\$4 plural \$4 multiple) with laser with (topo\$11 \$7textur \$6 modify\$3 modificat \$4 structur\$5 projection projecting hole aperture feature hill mound)	US-PGPUB; USPAT; USOCR	OR	ON	2009/03/22 09:44
S28	30	S27 and laser with (surface topo\$11) with (pattern\$4 \$7textur\$6 modify\$3 modificat\$4 structur\$5 projection projecting hole aperture feature hill mound)	US-PGPUB; USPAT; USOCR	OR	ON	2009/03/22 09:45
S29	8	S27 and repeat\$4 with laser with (topo\$11 \$7textur\$6 modify\$3 modificat\$4 structur\$5 projection projecting hole aperture feature hill mound)	US-PGPUB; USPAT; USOCR	OR	ON	2009/03/22 09:46
S30	9	("20060233999"   "4768897"   "4861407"   "4931125"   "4968383"   "5601737"   "6096445"   "6176959"   "6559926"). PN.	US-PGPUB; USPAT; USOCR	OR	ON	2009/03/22 10:31
S31	152	("1401386"   "20010011700"   "3101225"   "3193424"   "3563038"   "3959091"   "4004050"   "4166709"   "4194855"   "4278867"   "4341823"   "4348263"   "4476150"   "4479218"   "4480943"   "4483641"   "4525250"   "4561516"   "4565115"   "4572700"	US-PGPUB; USPAT; USOCR	OR	ON	2009/03/22 10:32

		"4580925"   "4599243"   "4615763"   "4619339"   "4622138"   "4632204"   "4672885"   "4673409"   "4746390"   "4832798"   "4861407"   "4898650"   "4931125"   "5023407"   "5062021"   "5332879"   "5338915"   "5368911"   "5413835"   "5424508"   "5427867"   "5473136"   "5473138"   "5474830"   "5491319"   "5506017"   "5550696"   "5586040"   "5637393"   "5650237"   "5662984"   "5705287"   "5843561"   "5981962"   "6097473"   "6194711"   "6351304"   "6366340"). PN. OR ("2006/0233999"   "4768897"   "4861407"   "4931125"   "4968383"   "5601737"   "6096445"   "6176959"   "6559926"). URPN.				
S32	5	S31 and repeat\$4 with laser with (topo\$11 \$7textur\$6 modify\$3 modificat\$4 structur\$5 projection projecting hole aperture feature hill mound)	US-PGPUB; USPAT; USOCR	OR	ON	2009/03/22 10:32
S33	2	S31 and (repeat\$4 multipl\$5) with laser with (deposit\$4 build\$3)	US-PGPUB; USPAT; USOCR	OR	ON	2009/03/22 10:35
S34	6	S29 and (join\$4 bond\$3 attach\$4)	US-PGPUB; USPAT; USOCR	OR	ON	2009/03/22 10:40
S35	4	S29 and (join\$4 bond\$4 attach\$5) with (topo\$11 \$7textur\$6 modify\$3 modificat\$4 structur\$5 projection projecting hole aperture feature hill mound)	US-PGPUB; USPAT; USOCR	OR	ON	2009/03/22 10:41

S36	11	S27 and (join\$4 bond\$4 attach\$5) with (topo\$11 \$7textur\$6 modify\$3 modificat\$4 structur\$5 projection projecting hole aperture feature hill mound) not S35	US-PGPUB; USPAT; USOCR	OR	ON	2009/03/22 10:43
S37	1	S26 and laser with (multiple plural\$4 translat\$4 different) with cool\$3	US-PGPUB; USPAT; USOCR	OR	ON	2009/03/22 10:59
S38	114	laser near2 (multiple plural\$4 translat\$4 different) with cool\$3 near2 laser	US-PGPUB; USPAT; USOCR	OR	ON	2009/03/22 11:00
S39	3	laser near2 (multiple plural\$4 translat\$4 different) near2 locat\$4 with cool\$3 near2 laser	US-PGPUB; USPAT; USOCR	OR	ON	2009/03/22 11:01
S40	1	machin\$3 near2 (location first) near2 cool\$3 with (second multiple plural\$4 translat\$4 different) near2 locat\$4 near2 machin\$3	US-PGPUB; USPAT; USOCR	OR	ON	2009/03/22 11:03
S41	0	machin\$3 near2 second near2 location with cool\$3 with first near2 locat\$4 near2 machin\$3	US-PGPUB; USPAT; USOCR	OR	ON	2009/03/22 11:05
S42	2	machin\$3 near2 second near2 (locat\$4 spot position) with cool\$3 with first near2 (locat\$4 spot position) near2 machin\$3	US-PGPUB; USPAT; USOCR	OR	ON	2009/03/22 11:05
S43	0	machin\$3 near2 second near2 (locat\$4 spot position) same cool\$3 with first near2 (locat\$4 spot position) near2 machin\$3 not S42	US-PGPUB; USPAT; USOCR	OR	ON	2009/03/22 11:06



S44	46	(machin\$3 laser drill\$4 cut\$4 weld\$4 braz\$4 solder\$4) with (multiple plural\$4 second different) adj2 (location position spot feature) with (first earlier previous\$4) near2 (location position spot feature) with (cool\$4 temperature)	US-PGPUB; USPAT; USOCR	OR	ON	2009/03/22 11:11
S45	2	((("6455807") or ("6919162"))).PN.	USPAT; USOCR	OR	OFF	2009/03/22 11:28
S46	0	S45 and alloy\$3	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/03/22 11:28
S47	39	S26 and laser with alloy \$3	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/03/22 11:29
S48	5	S24 and laser with (surface topo\$11 pattern \$4 \$7textur\$6 modify\$3 modificat\$4 structur\$5 projection projecting hole aperture feature hill mound) with alloy\$4	US-PGPUB; USPAT; USOCR	OR	ON	2009/03/22 11:59
S49	109	laser with (surface topo \$11) with (pattern\$4 \$7textur\$6 modify\$3 modificat\$4 structur\$5 projection projecting hole aperture feature hill mound) near5 alloy \$4	US-PGPUB; USPAT; USOCR	OR	ON	2009/03/22 12:02
S50	32	laser with (surface topo \$11) with (pattern\$4 \$7textur\$6 modify\$3 modificat\$4 structur\$5 projection projecting hole aperture feature hill mound) with (form \$3 produc\$4 result\$3 manufactur\$3) near2 alloy\$4	US-PGPUB; USPAT; USOCR	OR	ON	2009/03/22 12:04

S51	2	laser same (surface topo \$11) with (pattern\$4 \$7textur\$6 modify\$3 modificat\$4 structur\$5 projection projecting hole aperture feature hill mound) with (form \$3 produc\$4 result\$3 manufactur\$3) near2 alloy\$4 with (gas\$4 atmosphere)	US-PGPUB; USPAT; USOCR	OR	ON	2009/03/22 12:09
S52	0	laser same (surface topo \$11) with (pattern\$4 \$7textur\$6 modify\$3 modificat\$4 structur\$5 projection projecting hole aperture feature hill mound) with (form \$3 produc\$4 result\$3 manufactur\$3) near2 alloy\$4 near3 (gas\$4 atmosphere)	US-PGPUB; USPAT; USOCR	OR	ON	2009/03/22 12:09
S53	3	((("6455807") or ("6919162") or ("4850089"))).PN.	USPAT; USOCR	OR	OFF	2009/03/22 12:12
S54	2	S53 and (atmosphere inert gas)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/03/22 12:12
S55	282	S23 and laser with (rough\$5 project\$4 loop lock\$3)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/03/22 12:17
S56	20	S23 and laser with (produc\$4 effect\$3 manufactur\$3 making make) near2 (rough\$5 project\$4 loop lock\$3)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/03/22 12:17
S57	0	S23 and (produc\$4 effect\$3 manufactur\$3 making make) near5 (rough\$5 project\$4) with (loop\$3 lock\$3)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/03/22 12:25
S58	4	S23 and (produc\$4 effect\$3 manufactur\$3 making make) near5 (rough\$5 project\$4) with (loop\$3 hoop\$3 ring\$4 \$6lock\$3)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/03/22 12:26

S59	5	S23 and (product\$4 effect\$3 manufacturing make form\$3) adj2 (rough\$5 project \$4) with (free loop\$3 hoop\$3 ring\$4 \$6lock \$3)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/03/22 12:29
S60	158	laser same (product\$4 effect\$3 manufacturing make form\$3) adj2 (rough\$5 project \$4) with (free loop\$3 hoop\$3 ring\$4 \$6lock \$3) not S58 not S59	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/03/22 12:31
S61	153	laser same (rough\$5 project\$4) with (product \$4 effect\$3 manufacturing make form \$3) adj3 (loop\$3 hoop \$3 ring\$4 arc arcuat\$4) not S58 not S59	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/03/22 12:35
S62	40	laser near5 (rough\$5 project\$4) with (product \$4 effect\$3 manufacturing make form \$3) adj3 (loop\$3 hoop \$3 ring\$4 arc arcuat\$4) not S58 not S59	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/03/22 12:35
S63	3	laser near5 (rough\$5 project\$4) with (product \$4 effect\$3 manufacturing make form \$3) adj3 (loop\$3 hoop \$3 arc arcuat\$4) not S58 not S59	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/03/22 12:38
S64	98	laser near5 (rough\$5 project\$4) with (product \$4 effect\$3 manufacturing make form \$3) same (energy power intensit\$3) near2 reduc\$4	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/03/22 12:44
S65	7	laser near5 (rough\$5 project\$4) near3 (product \$4 effect\$3 manufacturing make form \$3) with (energy power intensit\$3) near2 reduc \$4	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/03/22 12:45

S66	6	laser with (rough\$5 project\$4) near3 (produc \$4 effect\$3 manufactur \$3 making make form \$3) with (energy power intensit\$3) near2 reduc \$4 not S65	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/03/22 12:46
S67	2	laser near3 (machining drilling cutting etching) with (energy power intensit\$3) near2 reduc \$4 with (chang\$5 alter \$5)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/03/22 12:48
S68	5	laser with (machining drilling cutting etching) and (energy power intensit\$3) near2 reduc \$4 near4 smooth\$5	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2009/03/22 12:49

**3/ 23/ 2009 12:30:06 PM**

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